80-13.

MONARCH

CASEMENT HARDWARE

As Important as the Hinges

Monarch Metal Products Company

St. Louis, Mo.

MONARCH CASEMENT HARDWARE

MANUAL

—FOR—

Architects and Building Contractors

A.I.A. Classification File 27c2

Monarch Metal Products Company

5020 Penrose Street

ST. LOUIS, MO.

MONARCH CASEMENT HARDWARE

PRODUCTS — CONTROL LOCK, AUTOMATIC STAY, and CHECK, three devices made by the Monarch Metal Products Company, for the noiseless regulation of hinged windows, and like openings. Also manufacturers of SURFACE BOLTS.

The MONARCH CONTROL LOCK is a fixture designed only for outswinging casement windows. It is a simple, sturdy device that will hold the sash securely at any angle up to 90 degrees. It is not necessary to raise the screen to open the window. There are no gears, ratchets or keys to become worn or out of order, which makes it noiseless.

The MONARCH AUTOMATIC STAY can be used on in or outswinging casements, transoms and pivoted windows. It is a friction device that will prevent the sash from slamming and breaking the glass. The feature of this device is that it can be adjusted, to secure the proper friction, by simply turning the outer tube. No tools are needed to adjust.

The MONARCH CASEMENT CHECK has the same uses as the Automatic Stay, but as it is made of steel, it is cheaper in price, but a very efficient article. The Check is also used on chests, window seats, cabinets, doors, etc.

The MONARCH SURFACE BOLT can be used on casements, transoms, or any hinged opening. Made of brass and steel.

MANUFACTURE — All special tools used in the manufacture of this hardware are designed and built in our factory. Every step, from the inspection of raw material to the finished product, takes place within the plant. The die work, the plating, the assembling, under one head, makes possible a realization of our specifications. Workmanship always comes first. Every operation is a check upon the preceding one; as defective material and poorly made parts cannot be assembled, or pass our inspection.

PACKING — Hardware is packed in heavy craft paper envelopes with printed instructions on the outside. Screws and illustrated details are also placed within the wrapper.

SHIPPING — St. Louis, the geographical center of the nation, is on 29 trunk lines, and is unsurpassed as a shipping point.

DISTRIBUTION — The foremost jobbing and wholesale hardware houses of this country handle our goods and, thru them, sectional dealers. This, with out direct field representation, gives Monarch Hardware national distribution.

INSTALLATION — Complete illustrated instructions are sent with each article, to aid the mechanic in making a perfect installation.

SPECIFICATIONS — When specifying Monarch Hardware use the trade names—Control Lock 01 or 03, Automatic Stay or Casement Check. If it is necessary that the stools be made wider than 8⅛", special Control Locks can be furnished, at a small additional cost.

COST — The cost of all Monarch Products is based on the quality of manufacture and workmanship necessary to give the purchaser the best results possible, which of course precludes the idea of low-priced hardware.

Monarch Metal Products Company

ST. LOUIS, MO.

CASEMENT WINDOWS

Casement windows have always been desirable under certain conditions for particular design, but the use of casement windows has met with constant resistance from the beginning, by American architects. This style of window has been avoided and in some cases even to the point of incongruity in design, on account of the objections caused principally by economic and seasonal conditions peculiar to North America.

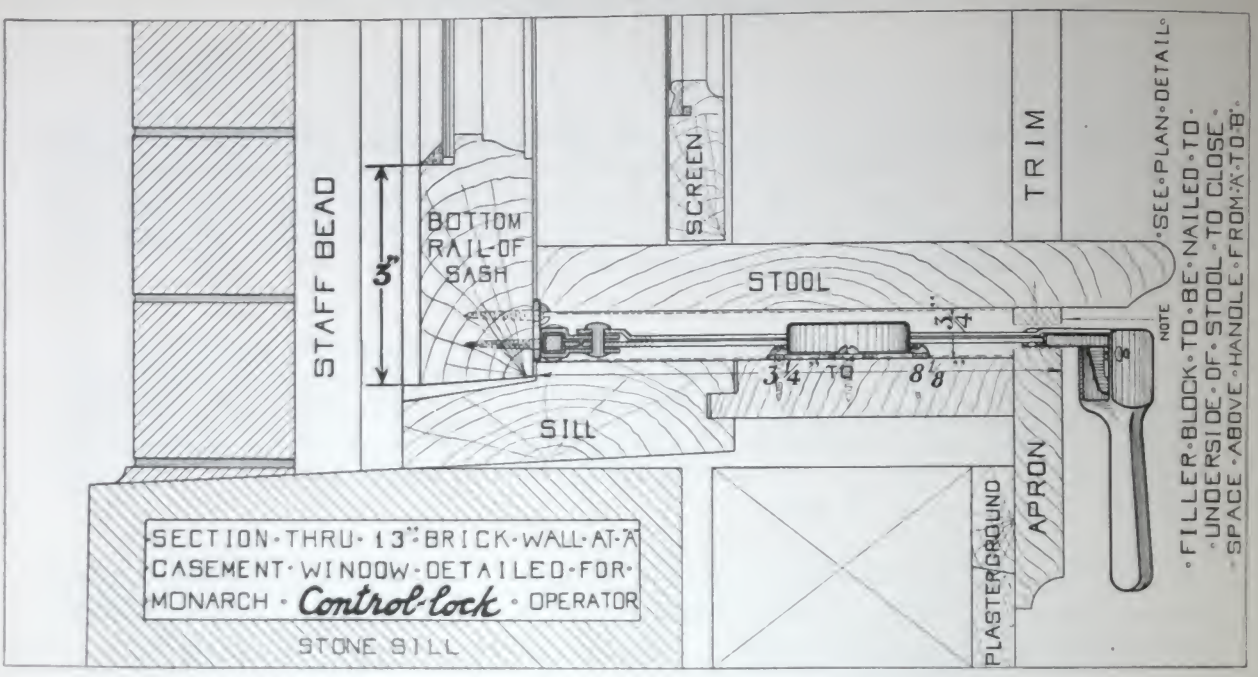
The ordinary sliding window or double hung has been accepted as a necessary evil. The early settlers wanted it because expensive imported hardware, or in fact all window hardware, could be dispensed with. At the time when this condition could have been remedied by domestic industry, screens had become common and it was then thought that the double hung window was the only window which could be screened so as to not interfere with the easy control of the sash.

The Monarch Metal Products Company is proud of the achievement in removing the last possible stigma of the casement window, but hasten to admit that the desire to do so was inspired by the casement itself. A satisfactory casement is a casement indeed.

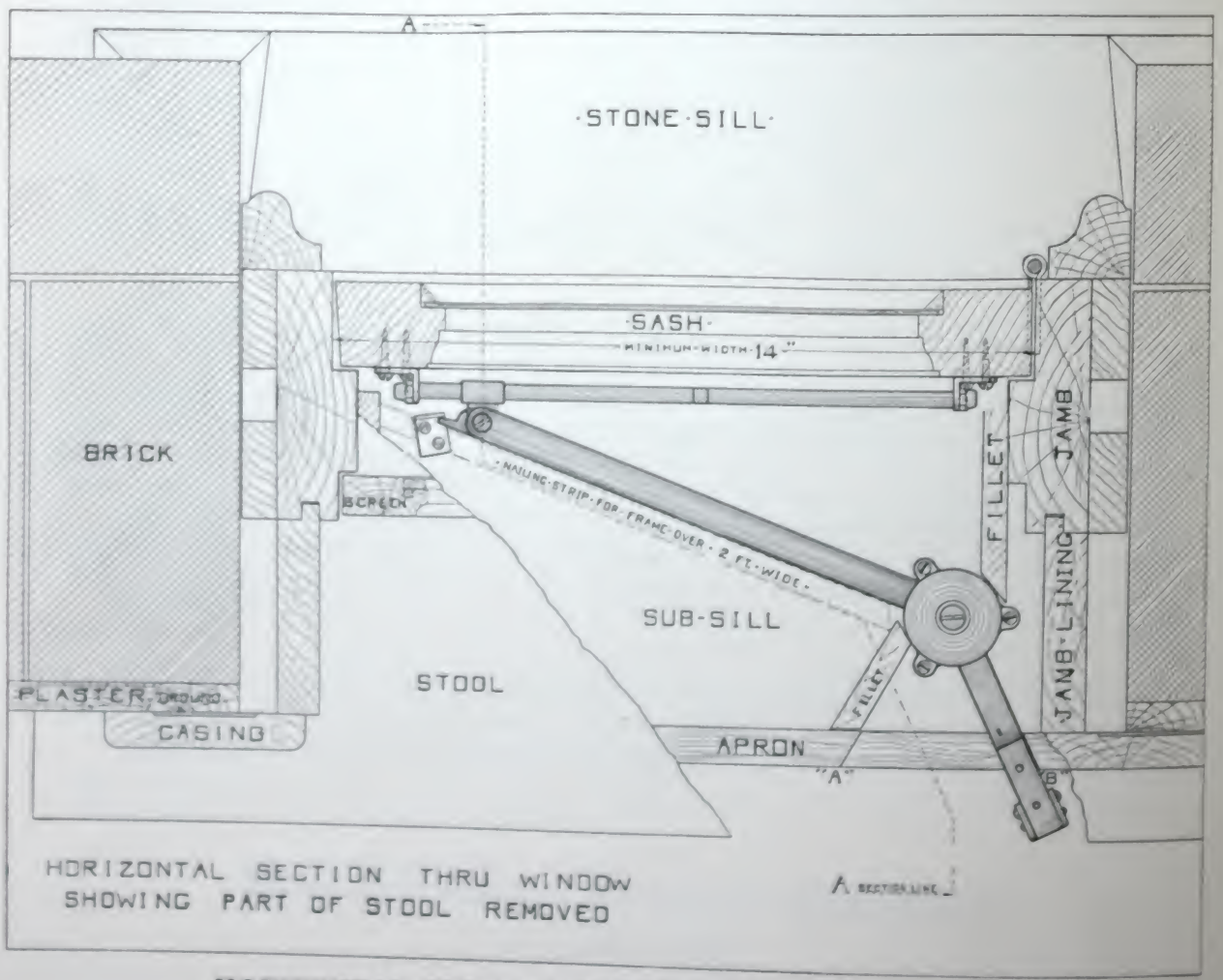
Before the principle was found that assured casement window satisfaction, it was necessary to first study the casement to determine the practical sizes of the sash. It was seen that casements could be too large. Design, workmanship and control hardware are unable to go beyond certain limits, when wood is used in their construction. Man does not control the elements and he finds it impossible to prevent warping and shrinking. The absence of the parting bead and the outside stop allows the casement to warp much easier than the double hung window. It is natural, therefore, that the small casement will not curl and twist out of line as easily as the large casement. The best practice and experience show that the casement that gives the best results is 14″-24″ in width, for a single sash and 50″ or less in height.

Although the thickness of the wall does not govern the dimensions of the sash, it enters into the manufacturer's considerations in standardizing his hardware. With a thirteen inch wall, very few window frames have stools that excede 8⅛″. This was taken as the maximum width stool for Monarch Control Locks. For the minimum width, the 6″ wall was considered and 3¼″ was found to be the standard narrow stool. When the Control Lock is applied under the stool, the above widths apply to the distance from the inside face of the sash to the front of the apron. However, if the Control Lock is used on top of the stool, the position of the screen governs the use of the regular operator. The Automatic Stay and Casement Check are not limited by the stool, as each required but small frame space.

With these considerations in mind, the architect can free his mind once and for all concerning the advisability of putting casement windows into any problem of design where such windows should be, as Monarch Casement Hardware is made for that purpose.



VERTICAL SECTION OF WINDOW — BRICK WALL



HORIZONTAL SECTION OF WINDOW — BRICK WALL

MONARCH CONTROL LOCK

Under the Stool Construction

There are some very good reasons why an architect should think of Monarch Control Locks before he has detailed the casement windows for any given structure.

When the Control Lock is used under the stool, no special method of installing the screens is necessary. They are put in without a thought to operating hardware.

The Monarch Control Lock opens *or* closes and locks outswinging casement windows in one continuous easy movement, thru inside screens.

There are no GEARS, RATCHETS *or* KEYS to get out of order, thru breaking *or* wear, which they will do, causing the operator to rattle. No parts of the Monarch Control Lock can rattle thru wear. A friction area is developed on the sash bar, when the handle is lowered, as pressure is applied directly to the bar attached to the sash. The sash is held firm and noiseless, owing to the absence of play in the lateral arms, which would be present if friction was developed in the pivot cap.

Monarch Control Lock handles are not removable. Each Control Lock is ready for immediate operation.

NEVER use on sash where the width exceeds 24" *or* is less than 14". If sash are less than 14", special sash bars can be made.

NEVER use on sash where the height is more than 60".

NEVER use on a window where the distance from the inside face of sash to the front of the apron exceeds 8½" or less than 3¼". If it is necessary to design sills wider than 8¼", write to our factory for cost of making up special operators.

When the Control Lock is applied under the stool, provision should be made for the extension of the sub sill to the apron, as shown in the opposite section, in order to provide an attachment place for the pivot plate. This can be varied somewhat according to office practice, but it is desirable that the extension of the sub sill be used both as a ground, and as a nailing strip for the apron. It is also recommended that the apron be housed into the under side of the stool.

It is very good practice to place a nailing strip parallel with the arm of the Control Lock to prevent the cupping of the stool. With double casements*, an additional nailing strip in the center of the frame at right angles to the apron, should be provided.

The necessary fillets or baffle blocks are best made from ¾"x¾" strip, cut thru with 1¼" bit to fit the radius of the pivot cap. The fillets are nailed one on either side, in such a manner as to make an insect proof joint.

NOTE:—The minimum heighth of the lower rail of the sash shall not be less than 3".

*This is only necessary, however, when the stool is more than 6" wide.

Control-lock—01

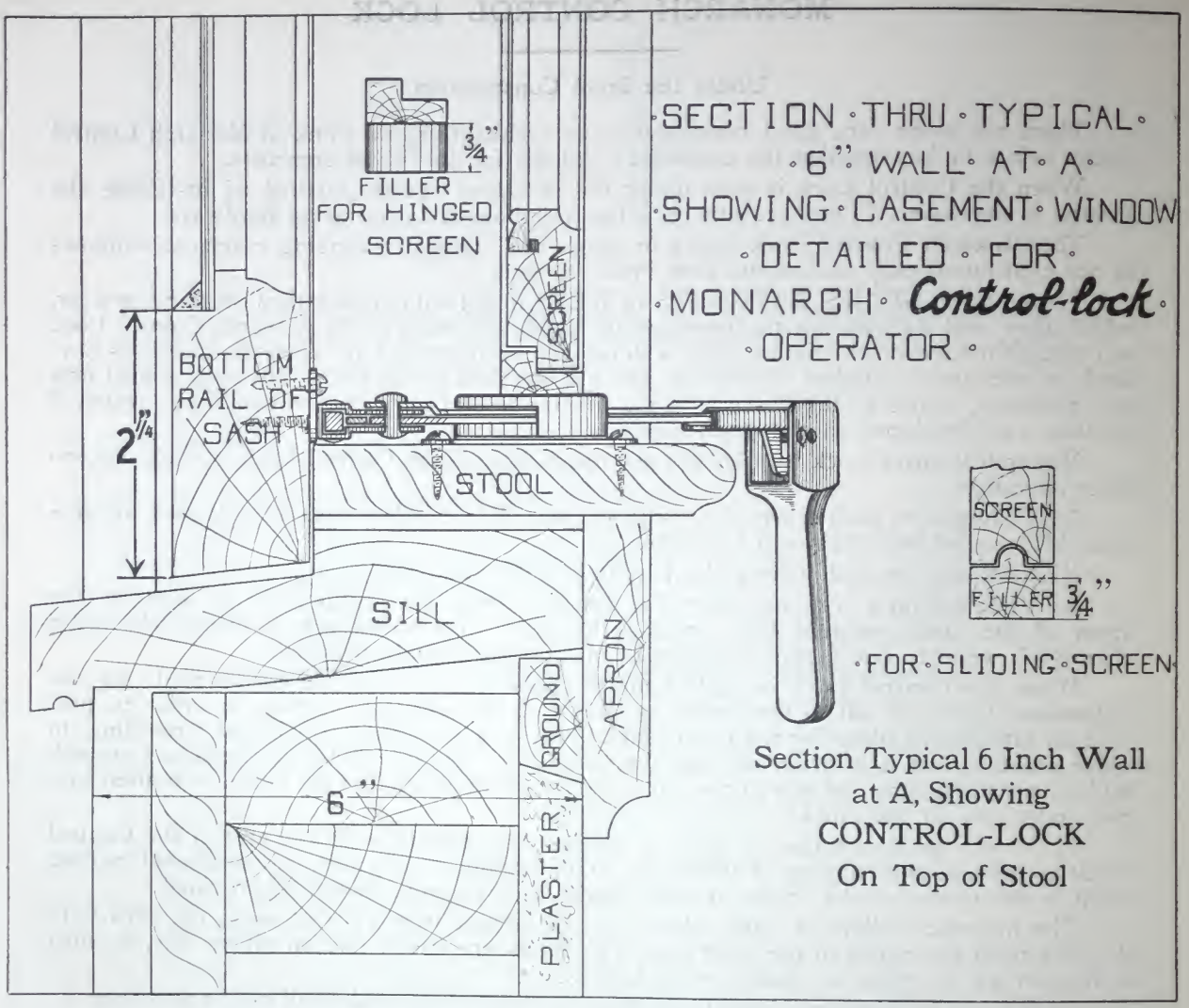
Standard Finish _____ $4.50 each

LIST PRICE

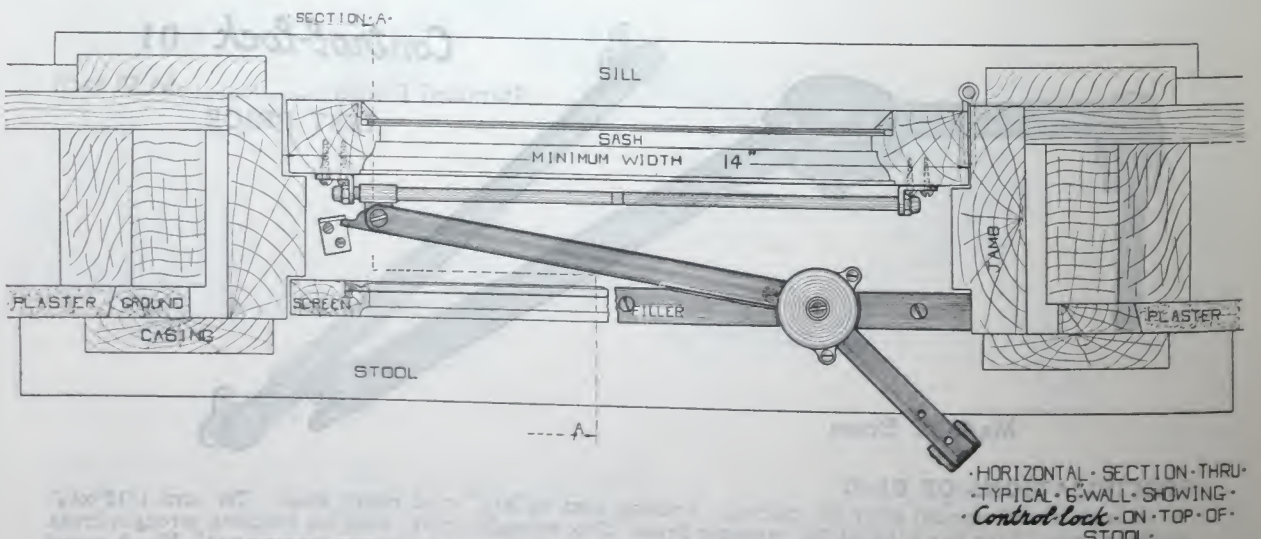
Made of Brass

SPECIFICATIONS OF CL-01

Handle round, special alloy die casting. Locking arm ¾"x⅝" cold rolled steel. Tie arm 1/16"x⅝" wrought brass. Sash bar 5/16"x5/16" wrought brass. Clip, wrought brass. Sash bar brackets, wrought brass. Screws thru pivot cap, clip and lateral arms, wrought brass. Screws to secure operator, 1" No. 9 round head, brass.



VERTICAL SECTION OF WINDOW — FRAME WALL



HORIZONTAL SECTION OF WINDOW — FRAME WALL

MONARCH CONTROL LOCK

On Top of Stool Construction

Apart from the convenience of having the Control Lock more or less hidden when applied under the stool, and the advantages gained by having it there, the Control Lock on top of the stool operates the sash in the same manner and with equal exactness.

The lever arms and handle are alone exposed when an outswinging casement, thru inside screens, is operated by the Control Lock on top of the stool. The lock is never obtrusive when a window is undraped, and is seldom seen on draped windows, so the client need not fear that this casement hardware will clash with any well appointed interior.

The Control Lock assures positive and firm regulation of casement windows, and will lock the window at any desired position thru inside screens without interfering with the drapes or hangings.

Our experience has been that a mechanic can install approximately six Control Locks on top of the stool an hour.

The way to obtain a convenient casement with a Control Lock:

NEVER use on sash where the width exceeds 24″ or is less than 14″. If sash are less than 14″, special sash bars can be made for small additional cost.

NEVER use on sash where the height is more than 60″.

Should the distance from the screen and nosing of stool be more than 3″ or if it is necessary that stool be made wider than 8⅛″, special Control Locks can be furnished at a small additional cost.

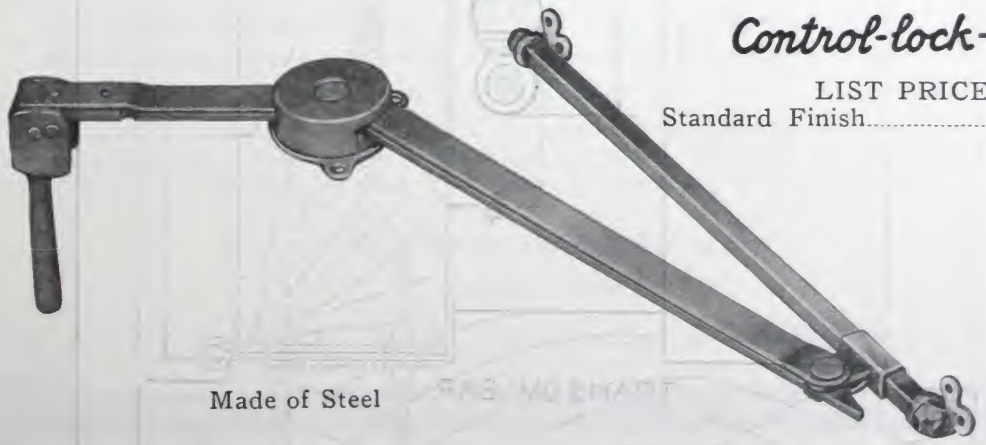
When the Control Lock is applied on top of the stool, as in the opposite section, a variation of window construction is permitted under the stool, according to office practice, as it is only necessary to have a stool of proper width in order to install the Control Lock.

Provision, however, should be made in the screen specifications for filler strips to extend above the heighth of the pivot cap (¾″) to receive screen. This fillet should be cut to fit around the cap of the Control Lock (see preparation of baffle blocks). This is only done, however, when the center of the pivot plate falls on the center line of the screen rabbett. If, for any reason, the screen rabbett cannot be established on the center line of the pivot cap, the screen rabbett must be 2″ inside or outside of the center line of the pivot cap and the filler strip slotted to receive the movable arm.

By lifting handle the lower or locking arm is drawn back, opening the clip wide enough to allow free movement of the sash bar engaged by it. By lowering the handle, the locking arm is pushed forward causing the clip to rigidly engage the sash bar, and the sash is held firm and noiseless.

A friction area is thus developed directly on the sash bar, doing away with unnecessary play in the lateral arms, which would be present if the friction was developed in the pivot cap.

NOTE:—The minimum height of the lower rail of the sash shall not be less than 2¼″.



Made of Steel

***Control-lock*—03**

LIST PRICE

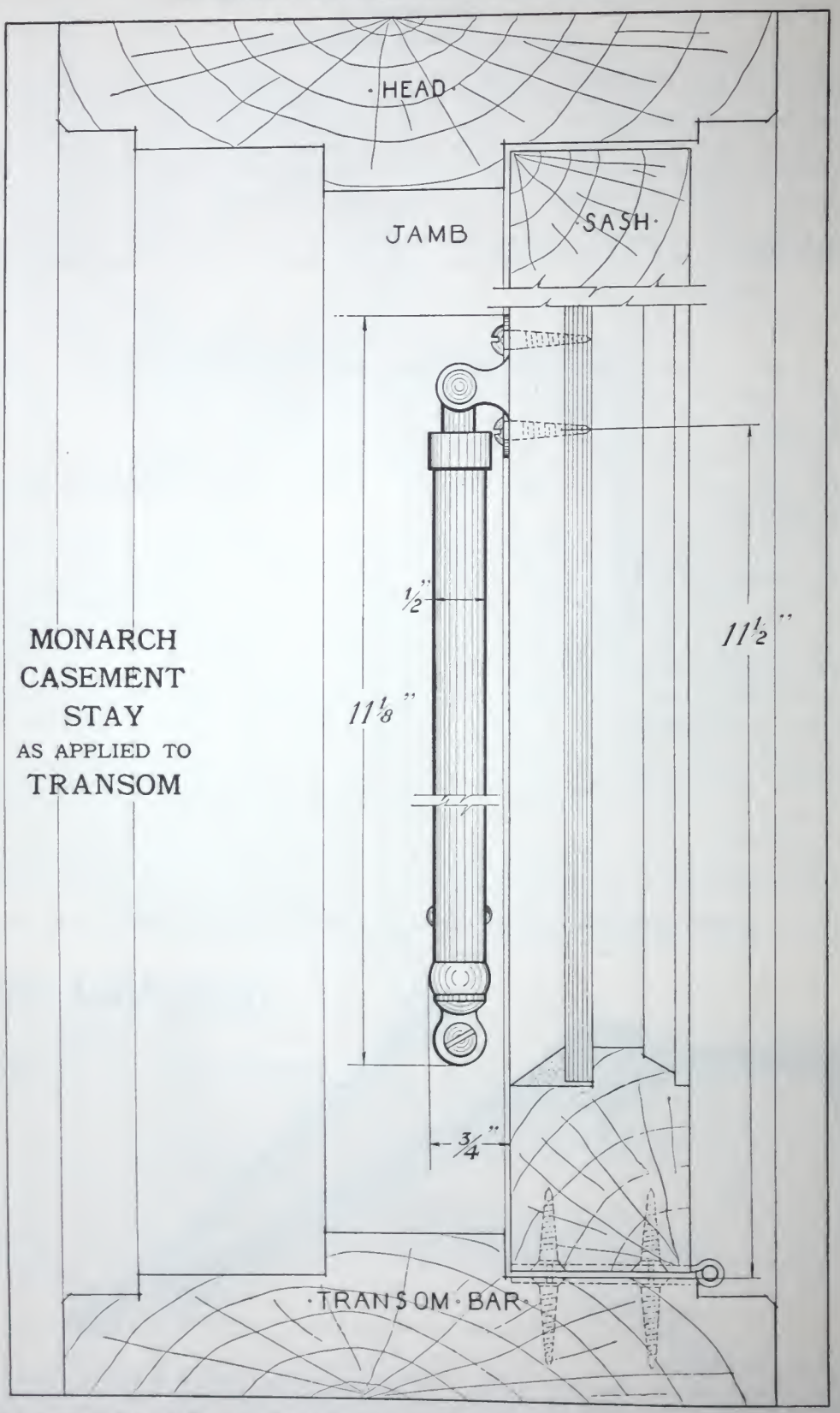
Standard Finish.....$3.00 each

SPECIFICATIONS CL-03

Handle round, special alloy die casting. Locking arm ⅛″x⅝″ cold rolled steel. Tie arm 1/16″x⅝″ cold drawn steel. Sash bar 5/16″x5/16″ Bessemer steel rod. Clip, wrought brass. Sash bar brackets, wrought brass. Rivets thru pivot cap, clip lateral arms, steel. Screws to secure operator, 1″ No. 9 round head steel.

The only difference between CL-03, and CL-01 is in the materials used. Steel being the principal metal used in the first, while wrought brass constitutes the greater part of the second.

MONARCH AUTOMATIC STAY AS-01
HORIZONTAL SECTION OF TRANSOM

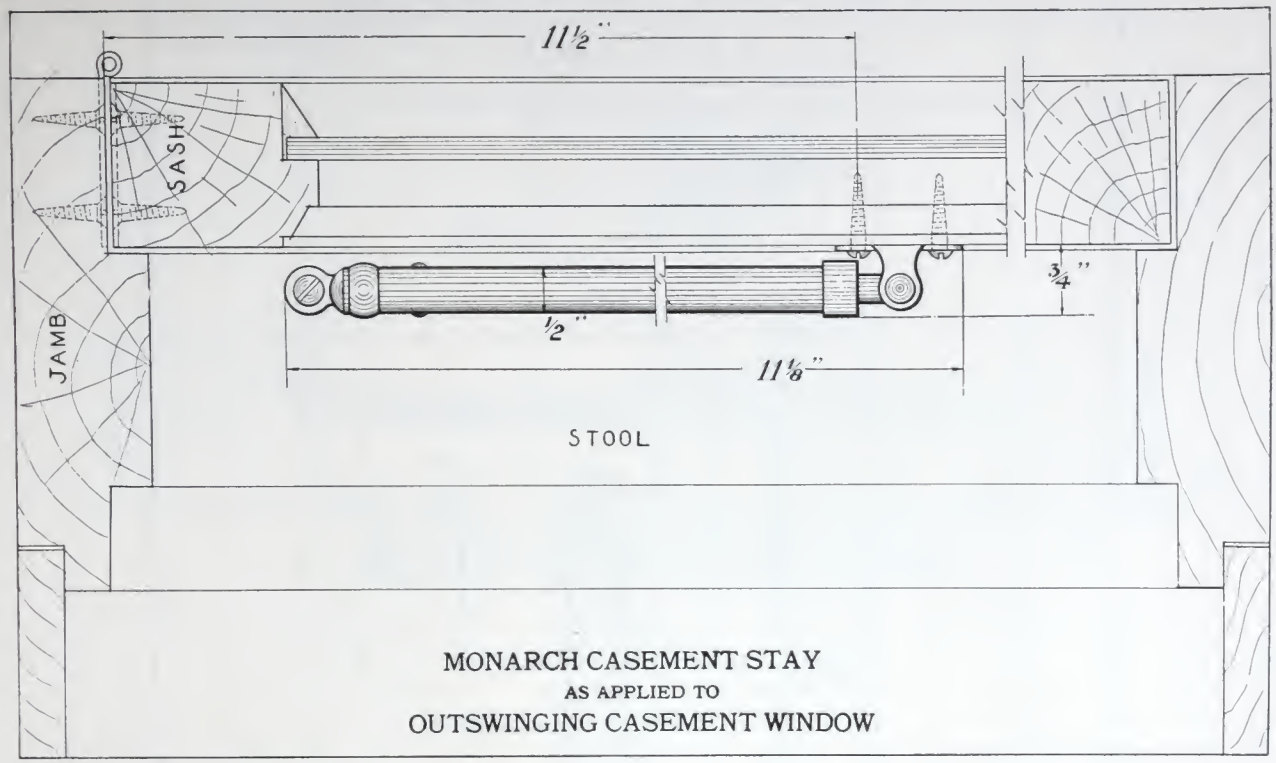


The Automatic Stay AS-01 is applied to transoms hung from the top, side or bottom. It is recommended that the sash be hung from the top and side in preference to the bottom. The successful angle of operation for the Stay is 130°. Transoms equipped with the Stay are not only positive and dependable in operation, but are always noiseless and cannot slam or rattle.

This sturdy and simple device can be installed at the rate of five an hour, on transoms.

MONARCH AUTOMATIC STAY AS-01

HORIZONTAL SECTION OF WINDOW



MONARCH CASEMENT STAY
AS APPLIED TO
OUTSWINGING CASEMENT WINDOW

The Automatic Stay is so called because of its function. The casement is opened and closed as it would be without hardware, but it stays put. The added force to overcome the friction produced by the Stay is hardly noticed, while the result is that the sash will remain open in the face of an ordinary high wind. If the wind does overcome the Stay, the sash closes gradually without a possibility of slamming, and the window at no time will rattle. Where the locking feature of a casement window is not needed, the Stay has no rival.

The necessary frame required is ¾".

There is nothing to get out of order, no oil or tools are ever needed to make adjustments, and installations are easily made. For the outswinging casement as shown above, a mechanic can put on at least eight Automatic Stays an hour.

TO INSURE THE BEST RESULTS WITH THE AUTOMATIC STAY:

NEVER use on a single sash having a width exceeding 24", or less than 14".

NEVER use on a sash having height greater than 50".

The Monarch Automatic Stay is made on the telescopic principle; friction being developed by means of an expansion bolt pressing on the inside of the outer tube. While the friction, when set, will remain almost constant, it delicately increases or decreases by slight turn of the outer tube.

MONARCH *Automatic* STAY

LIST PRICE

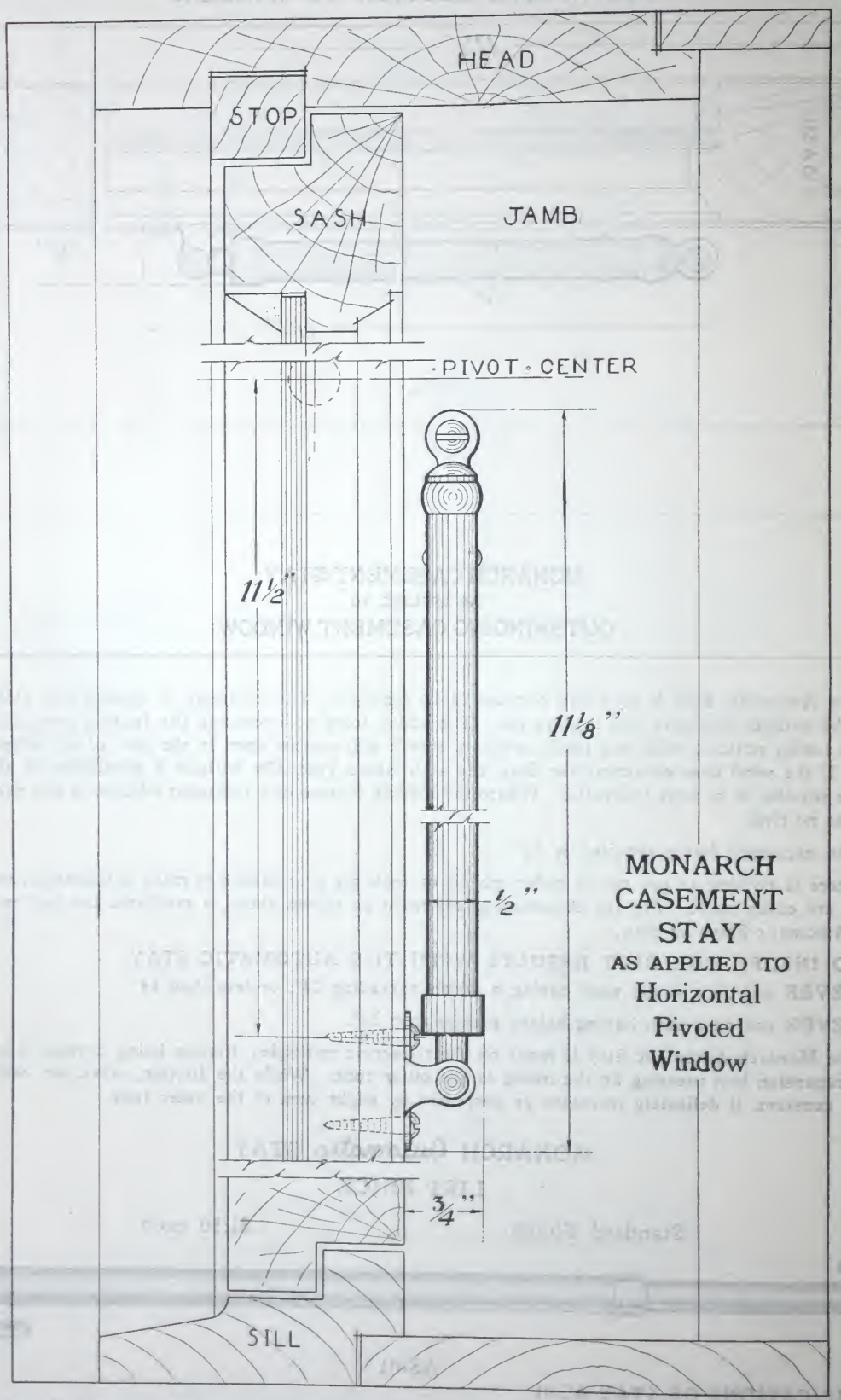
Standard Finish.....$1.50 each

AS-01

SPECIFICATIONS OF STAY AS-01

Outer tube, rolled brazed brass. Plunger bar, wrought brass. Brackets, wrought brass. Screws to secure Stay, 1" No. 9 round head, brass.

MONARCH AUTOMATIC STAY AS-01
VERTICAL SECTION OF WINDOW

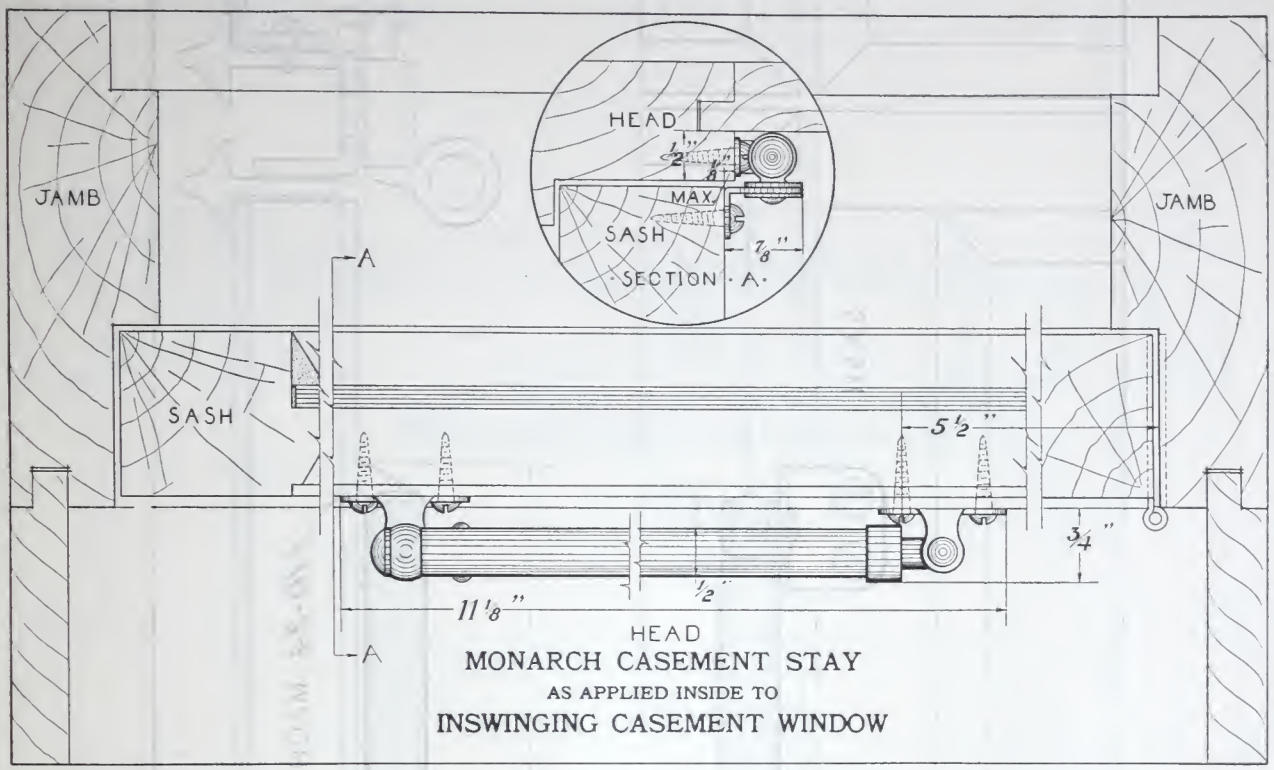


The horizontal pivoted window is easily controlled by the Automatic Stay AS-01. The necessary frame space required, is only ¾", which makes possible the operation of many windows with extremely narrow or unusually wide frames. If such windows are desired, the hardware selected should be the noiseless, adjustable Automatic Stay.

A mechanic should equip at least eight horizontal pivoted windows an hour, with Automatic Stays.

MONARCH AUTOMATIC STAY AS-02

HORIZONTAL SECTION OF WINDOW



MONARCH CASEMENT STAY

AS APPLIED INSIDE TO

INSWINGING CASEMENT WINDOW

The inswinging casement window is a condition, resulting mostly from the thought that this was the only way a casement could be hung so as to be easily screened without interfering with the operation of the window. Even though the Monarch Control Lock proves that an outswinging window is much more satisfactory, and while we do not recommend the inswinging window, because of the difficulty in constructing the sill properly to keep the rain from coming in and ruining the walls, also the marring of the interior by having casements extending in the room when opened, we have made a Stay to control the inswinging sash where it is desired. The slam and rattle disappear and the window is made noiseless. The Stay AS-02 is attached to the inside of the frame so as to be protected against the weather. This feature will appeal to anyone desiring to control an inswinging casement sash.

Eight Automatic Stays (AS-02) can be installed per hour on inswinging windows.

Best results with the Automatic Stay are obtained on a sash of the following dimensions:

Maximum width of sash 24".

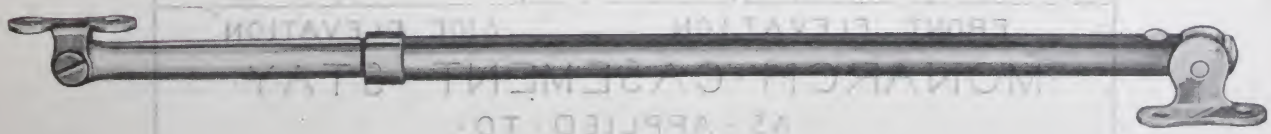
Minimum width of sash 14".

Maximum height of sash 50".

MONARCH *Automatic* STAY

LIST PRICE

Standard Finish.....$1.50 each



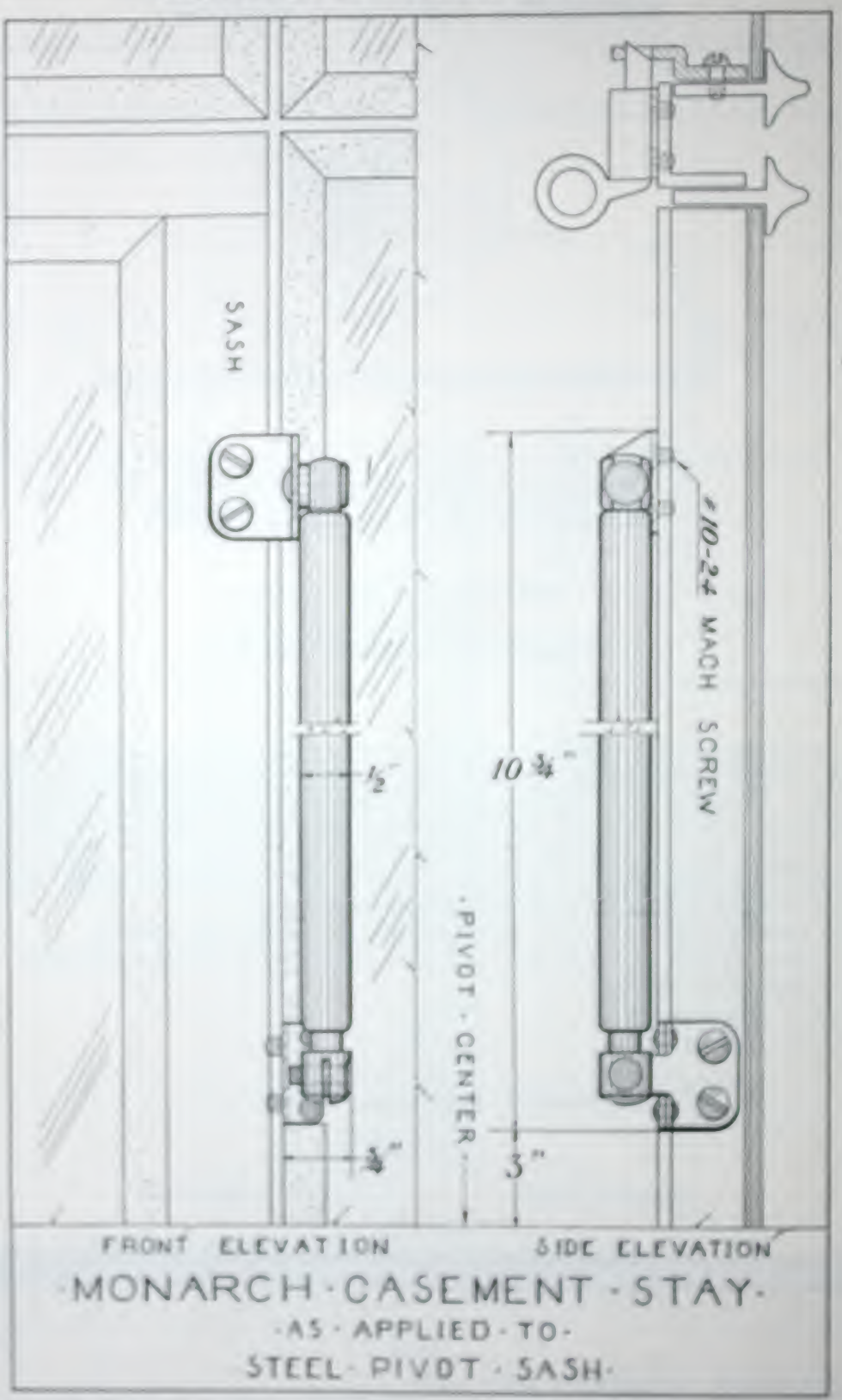
AS-02

SPECIFICATIONS AUTOMATIC STAY AS-02

Outer tube, rolled brazed brass. Plunger bar, wrought brass. Brackets, wrought brass. Screws to secure Stay, 1" No. 9 round head, brass.

The bracket on the right of the above illustration, is the only point of difference between the two stays. This bracket being particularly designed to permit the stay to be attached to the inside of the frame for inswinging casements.

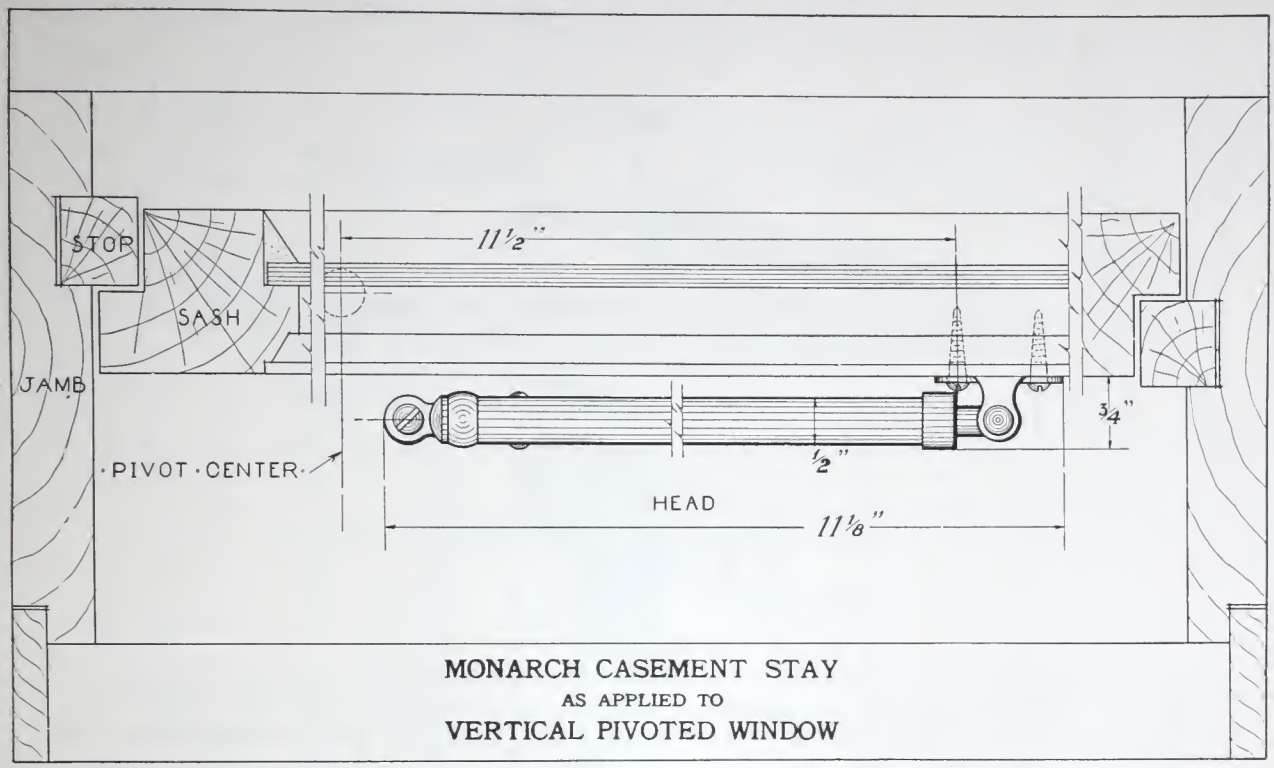
MONARCH AUTOMATIC STAY AS-03
ELEVATION OF WINDOW — STEEL SASH



The pivoted window of steel sash construction has come into general use in factories and industrial plants particularly because of the increased light and ventilation they give. There is one objection however, the wind will make them slam and break the panes, they are also noisy and annoy the workers. The Automatic Stay AS-02 is a stay with special brackets, built to overcome the difficulty, and makes noiseless controlled windows.

With a small electric drill, four stays can be installed an hour.

MONARCH AUTOMATIC STAY AS-01
HORIZONTAL SECTION OF WINDOW



MONARCH CASEMENT STAY
AS APPLIED TO
VERTICAL PIVOTED WINDOW

SPECIFICATIONS AUTOMATIC STAY AS-01

Outer tube, rolled brazed brass. Plunger bar, wrought brass. Brackets, wrought brass. Screws to secure Stay, 1" No. 9 round head, steel.

On pivoted windows as on casements, that do not need to be locked, the Stay is not to be compared with other control hardware. The windows are always easily and safely opened and closed. There is no possibility of a sash slamming, even in the face of a high wind, and a rattle is never heard. This assures a noiseless window, which is controlled as if there was no hardware on it. The Stay also offers a number of options when installations are made, as it can be used on the right or left side, at top or bottom. Eight Automatic Stays can be installed per hour on pivoted windows.

Casements of the following dimensions are found to give the most satisfactory operation:

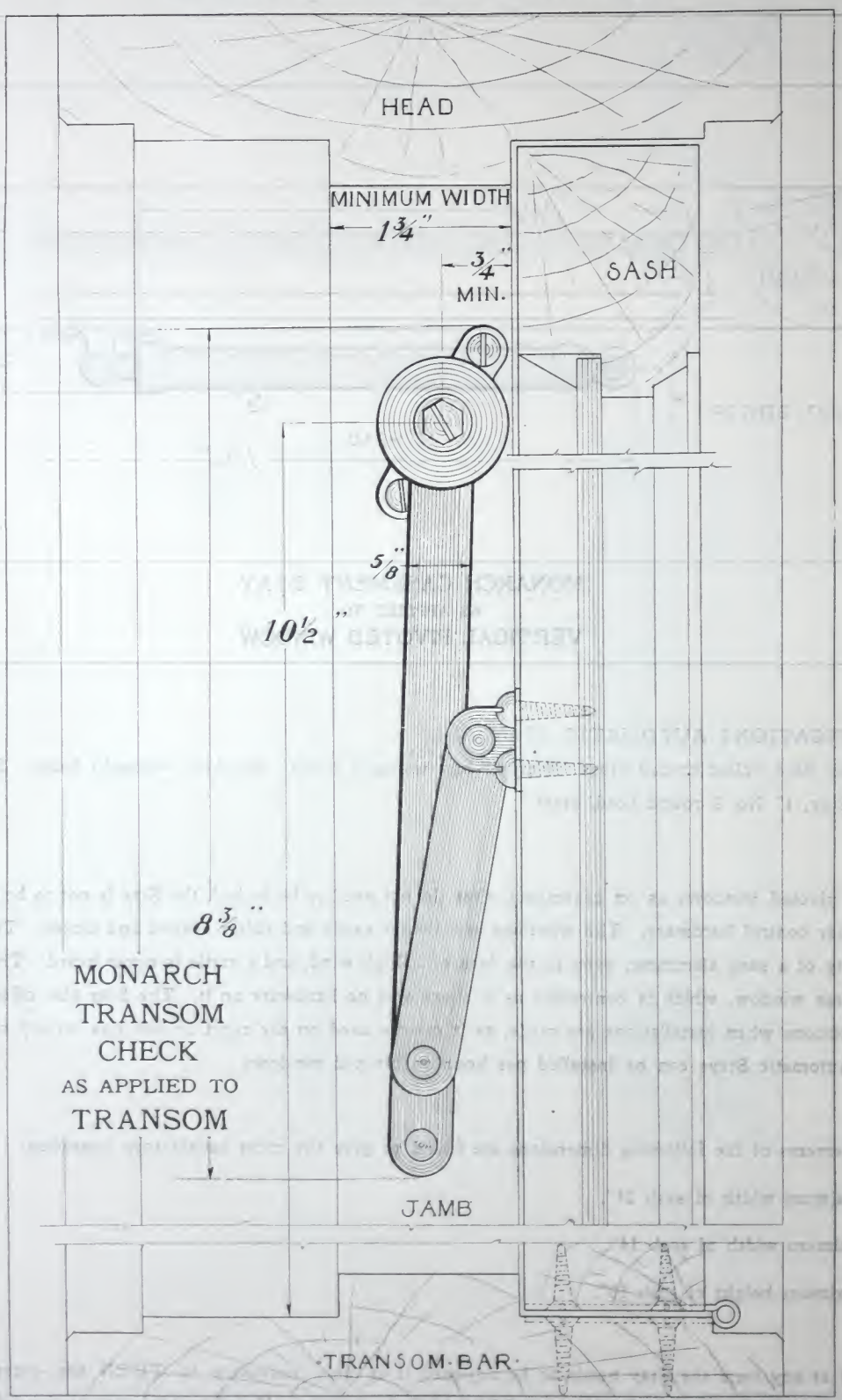
Maximum width of sash 24".

Minimum width of sash 14".

Maximum height of sash 50".

If at any time the Stay needs to be adjusted it is only necessary to **TURN** the outer tube to **RIGHT** or **LEFT** to **INCREASE** or **DECREASE** the friction. No oil or tools are ever needed. This eliminates taking the fixture off, tightening screws, overhauling and other antiquated ways of making adjustments common to most casement hardware.

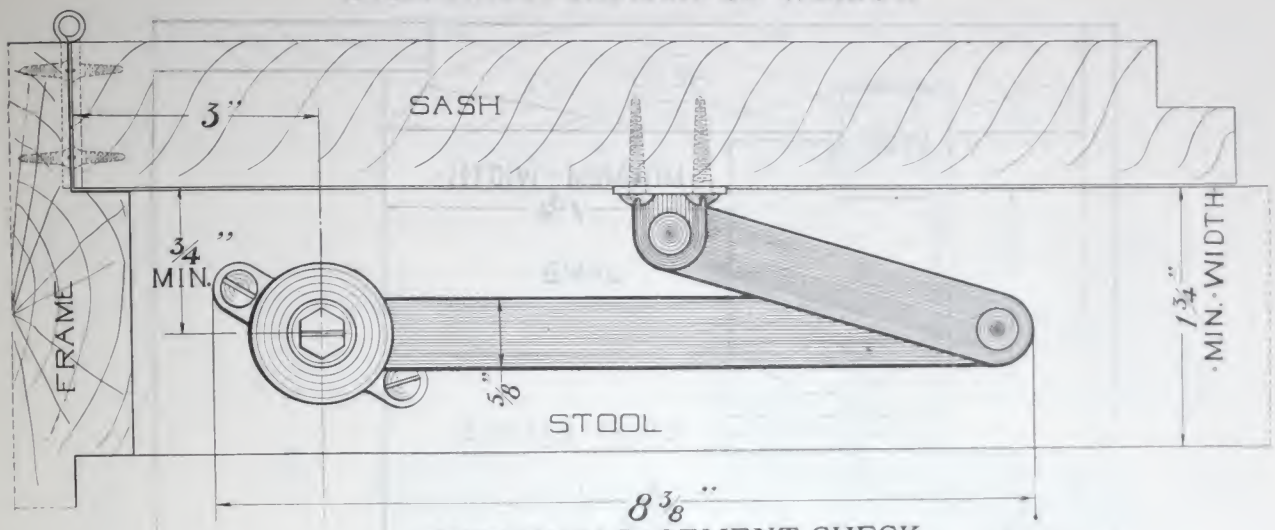
MONARCH TRANSOM CHECK
HORIZONTAL SECTION OF TRANSOM



Zinc and Brass finish, only

The transom cannot be better equipped, than with the Check. It is positive, it is noiseless, it is inexpensive. It has a clean and sturdy appearance, which also speaks for its operation. It requires but 1¾" frame space, and is installed at the rate of six per hour.

MONARCH CASEMENT CHECK
HORIZONTAL SECTION OF WINDOW



MONARCH CASEMENT CHECK
AS APPLIED TO
CASEMENT WINDOW

The Check cannot be called expensive, yet it should go on places where expensive hardware is often used. Dormer casements should have Checks. These windows do not need to be locked, but need a noiseless operating window control. The Check can be painted the same color as woodwork in the dormer rooms, to carry out the color scheme, adding to the attractiveness of the house while giving permanent utility.

Hardware requirements for casements in servants quarters are also satisfied with the Check, in cost and service.

The adjustment on the Check is made by turning the hexagonal set screw in the pivot plate attached to the frame. This fixture has nothing about it to get out of order, and long exacting service is assured. The joints and friction surfaces are protected against wearing smooth, by copper washers.

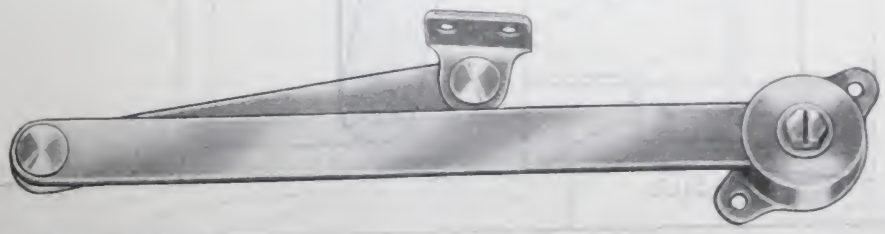
Use a Check on hinged window whose dimensions are:

Maximum width of sash 24".
Minimum width of sash 14".
Maximum height of sash 50".

MONARCH CASEMENT CHECK

LIST PRICE

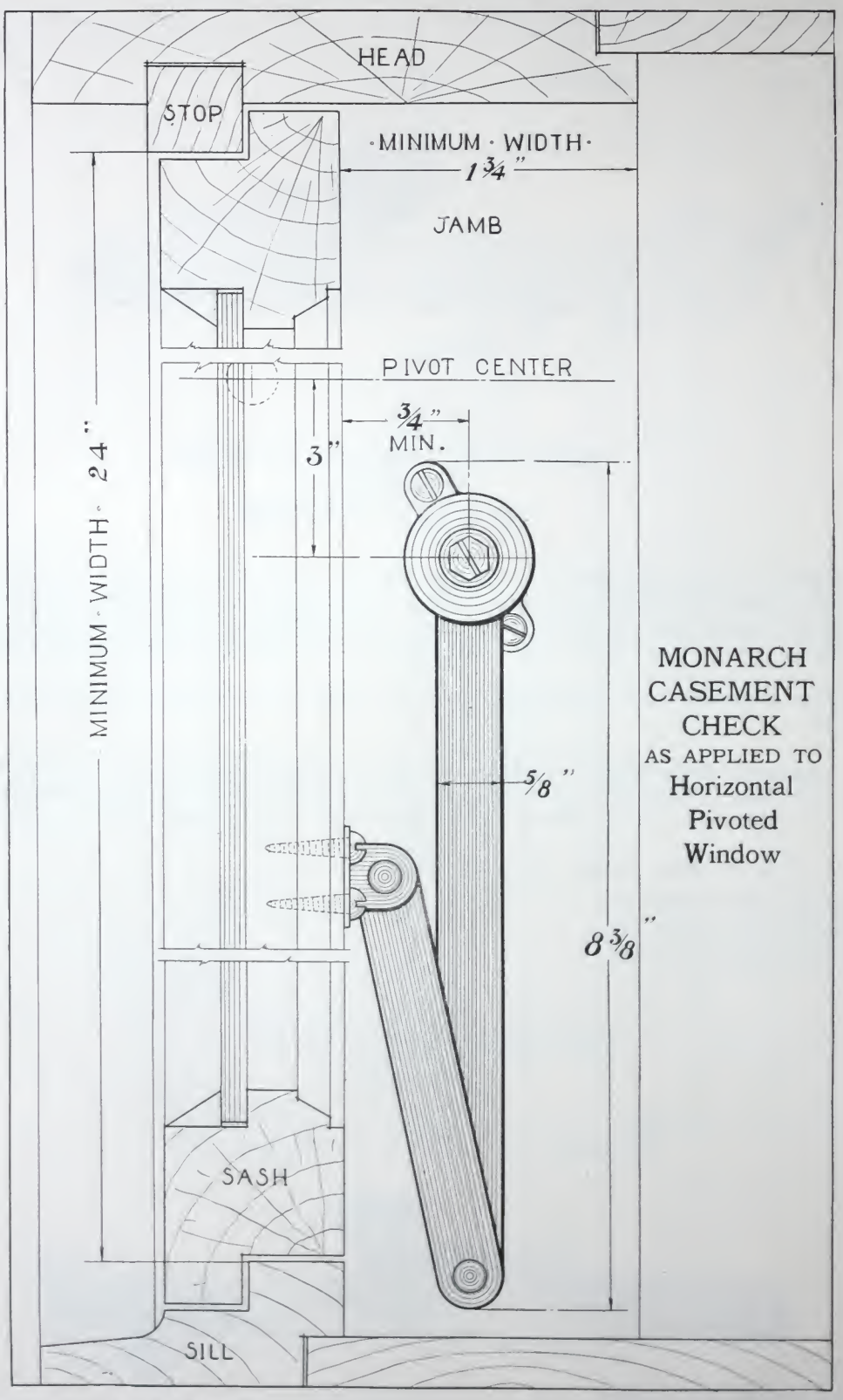
Zinc	75 cents each
Dull Brass	85 cents each



SPECIFICATIONS OF CHECK

Lateral arms 1/8"x5/8" cold drawn steel. Bracket 1/16"x1" cold rolled steel. Pivot cap, steel. Rivets, 1/4" steel. Adjustments screw 3/8" hexagonal machine steel. Washers at joints, copper.

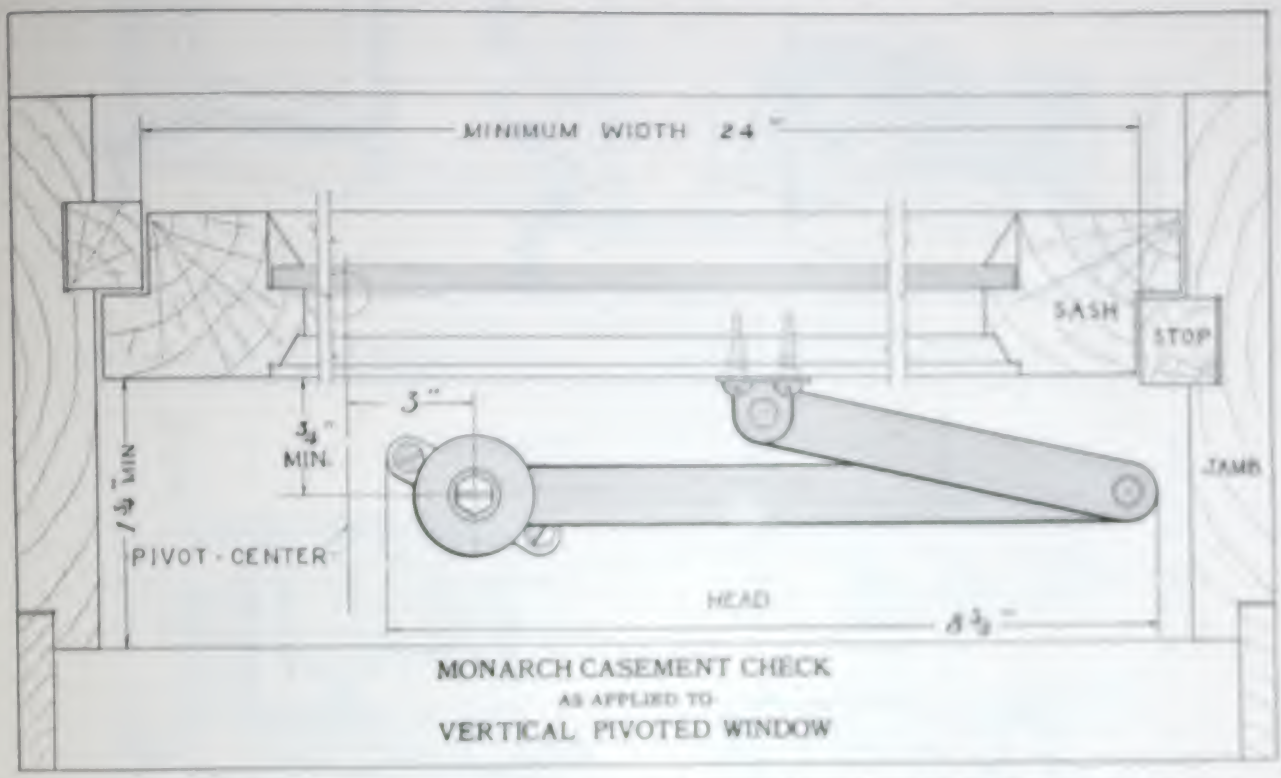
MONARCH CASEMENT CHECK
VERTICAL SECTION OF WINDOW



SPECIFICATIONS OF CHECK

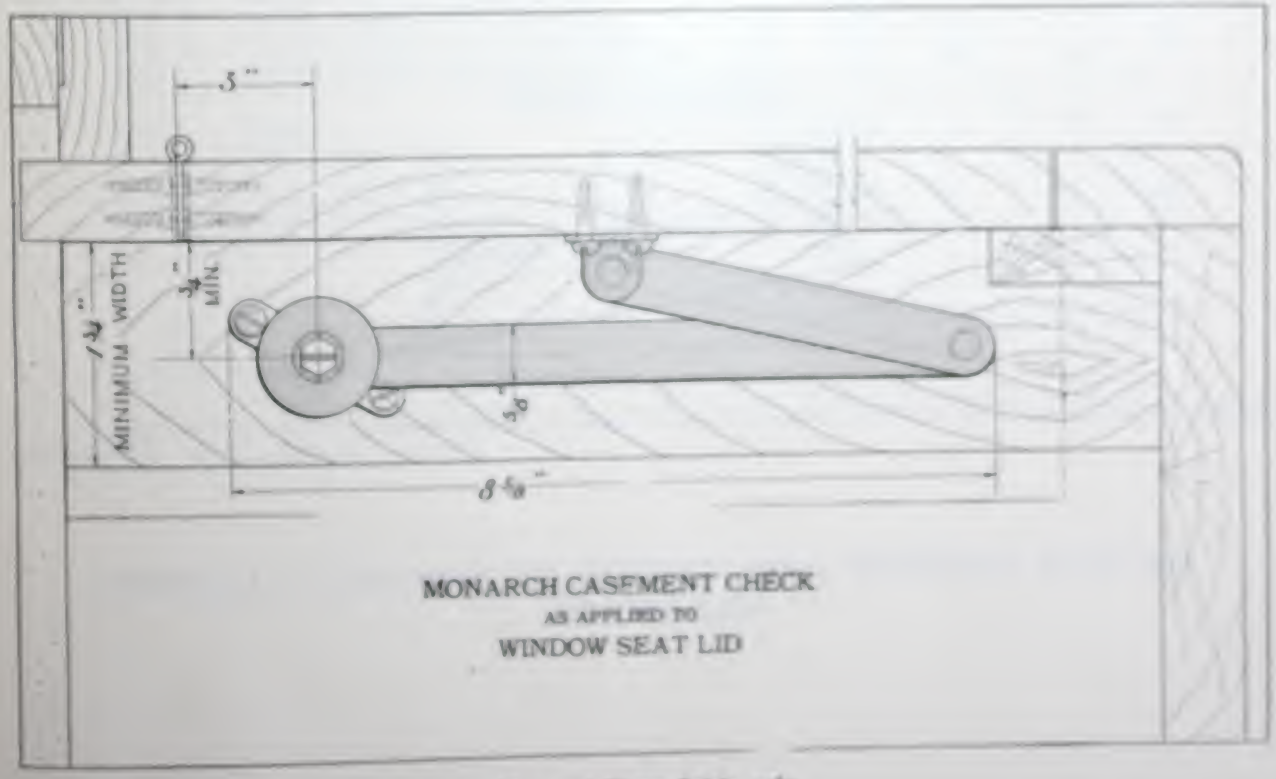
Lateral arms ⅛"x⅝" cold drawn steel. Bra cket 1 16"x1" cold drawn steel. Pivot cap, steel. Rivets ¼" steel. Adjustments screw ⅜" hexagonal machine steel. Washers at joints, copper.

MONARCH CASEMENT CHECK
HORIZONTAL SECTION OF WINDOW



MONARCH CASEMENT CHECK
AS APPLIED TO
VERTICAL PIVOTED WINDOW

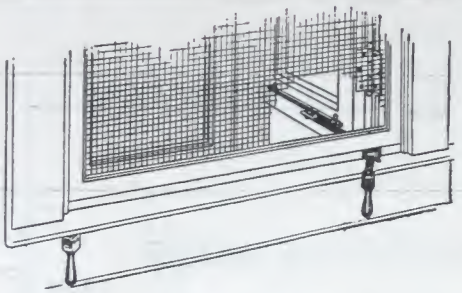
On vertical pivoted windows, window seats, pantry doors, cabinet doors, bookcase doors and on any number of other hinged openings, the Check proves its utility. It is sturdy, practical and maintains perfect friction. The Check is easily adjusted by turning the head screw. Installations on vertical pivoted windows as shown above, can be made at the rate of twelve per hour, while six is probably the minimum for window seats.



MONARCH CASEMENT CHECK
AS APPLIED TO
WINDOW SEAT LID

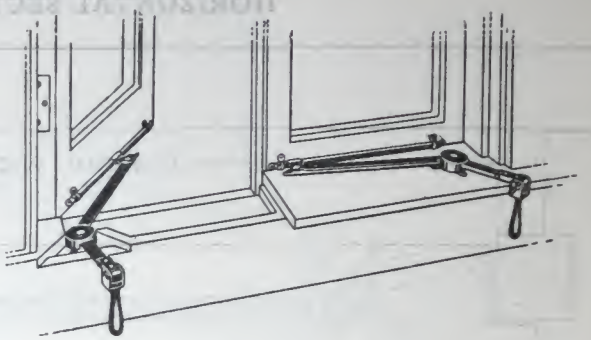
Zinc and Brass finish, only

CONTROL LOCK



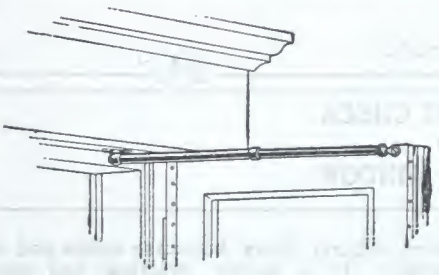
Monarch Control Lock
Applied on top and below stool, with screen in place

CONTROL LOCK



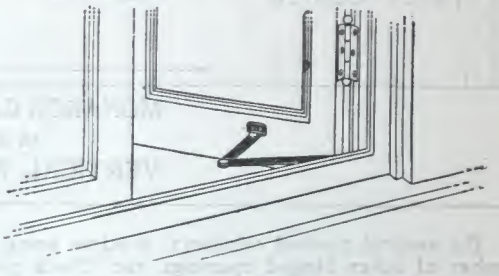
Monarch Control Lock
Applied on top and below stool, showing construction stool and screen removed.

AUTOMATIC STAY



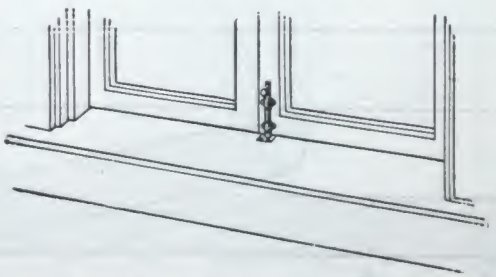
Monarch Automatic Stay applied at head of window

CASEMENT CHECK



Monarch Casement Check
Applied on sill of casement window

SURFACE BOLT



Monarch Surface Bolt applied on casement window

DETAILS SHOWING APPLICATION OF MONARCH CASEMENT HARDWARE

FINISHES

The following is a comparative list of finishes with those of other manufacturers. Finishes not listed quoted on application.

Monarch	DESCRIPTION	Stanley Works	Yale & Towne	Russell & Irwin	P. & F. Corbin	Sargent
D. B.	Dull Brass	F	AY22	9	EA	OB
D. B. S.	Dull Brass Sanded *	SF	AX22	09	SEA	
B. S. O.	Dull Brass Slightly Oxidized	F4	AY21	9C	KA	OE
O. B. M.	Brass Oxidized Mottled	F2	AZ17	9½	HA	EB
B. O. L.	Brass Oxidized Light Center	F1	AY57	9¾		
P.	Polished Brass	C	AZ10	10	A	B
S. B. R.	Statuary Bronze	B8	BY65	2		
S. B. L.	Statuary Bronze Light	B				
S. B. D.	Statuary Bronze Dark	B1	CY24			
S. B. S.	Statuary Bronze Light Sanded *	SB				
A. B. M.	Antique Bronze Medium	B5			KB	
P. B.	Polished Bronze	A	BZ10	11	B	P
D. C.	Dull Copper	D	CY10			
D. C. S.	Dull Copper Sanded *	SD				
C. O. C.	Copper Oxidized Light Center	D1	CY57	7¾		LB
O. C. L.	Copper Oxidized Light Mottled	D2	CZ17	7½	R	AB
O. C. D.	Copper Oxidized Dark Mottled	D3	CZ18			
O. C. S.	Copper Oxidized Light Center Sanded *	SD1	CX57	07¾		RC
C. M. S.	Copper Oxidized Light Mottled Sanded *	SD2	CX17	07½	SR	
C. D. S.	Copper Oxidized Dark Mottled Sanded *	SD3				
P. N.	Nickel	N	NZ10	4	E	N
D. N.	Dull Nickel	N5				
B. F.	Bower Bariff	G	FX80	46	F	BB
D. B. E.	Dead Black Electroplate	H	BX16	06	KF	BN

All parts are plated separately to insure a uniform thickness of plate.

NOTE—When ordering CONTROL-LOCKS be sure and specify RIGHT and LEFT hand, also NUMBER and FINISH. USE MONARCH CODE.

MONARCH METAL PRODUCTS COMPANY

5020 PENROSE STREET

ST. LOUIS, MO.

TRADE MARK

Incorporated, 1906

Capital Stock - - - - - - - $180,000

Assets and Resources - - - $400,000

HOME OF

MONARCH CASEMENT HARDWARE